



# The What and Why of Predictive Analytics

Gaining Foresight for Your Business with Data





## Introduction

Using data, many predictions are made about each of us as individuals every day, seamlessly and invisibly affecting our environments and decisions. And yet when it comes to integrating predictive analytics into business teams, the concept and process can feel vague and confusing.

With data analytics and data science including so many different skills and approaches, it's understandable to feel overwhelmed and uncertain about what the key terms even mean, much less how or why to adopt this approach on your team and in your business.

Predictive analytics has immense capability to reshape your business and help you achieve your most significant metrics for success. This guide will introduce you to the fundamental meaning of the term. We'll also look at some examples and explore how data-driven predictions can maximize your business's potential and help you accomplish your goals.

If you're already familiar with advanced business analytics and data science concepts, then skip ahead to **"The predictive analytics process"** on page 7.

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# Predictive analytics already affects your life

## Encounters with Data

Your everyday experiences are probably shaped by predictive analytics in many ways, even if you don't think of them that way. Even a routine chore like grocery shopping represents predictive analytics at work behind the scenes. The store shelves are usually full of products, thanks to careful forecasting of supply and demand. The placement of items in the store has been determined through predicting what will maximize customers' purchases. And the personalized coupons the cashier hands you at the checkout? Those, too, have been predicted to be of special interest to you, based on your shopping history.

Big businesses have been using this data-driven approach for some time now. However, today, you don't have to be an enormous company with teams of analysts and data scientists to shape customer experiences with data and affect these business outcomes.

## Data for All

Whatever your industry and however you interact with customers, there's a way to put data to work to reach customers more effectively, provide them with the offers and products they need and want at the right time, and improve your bottom line.

Best of all, this process no longer requires some magical, mystifying combination of data scientists and hand-built code. The power of predictive analytics is available for every business.

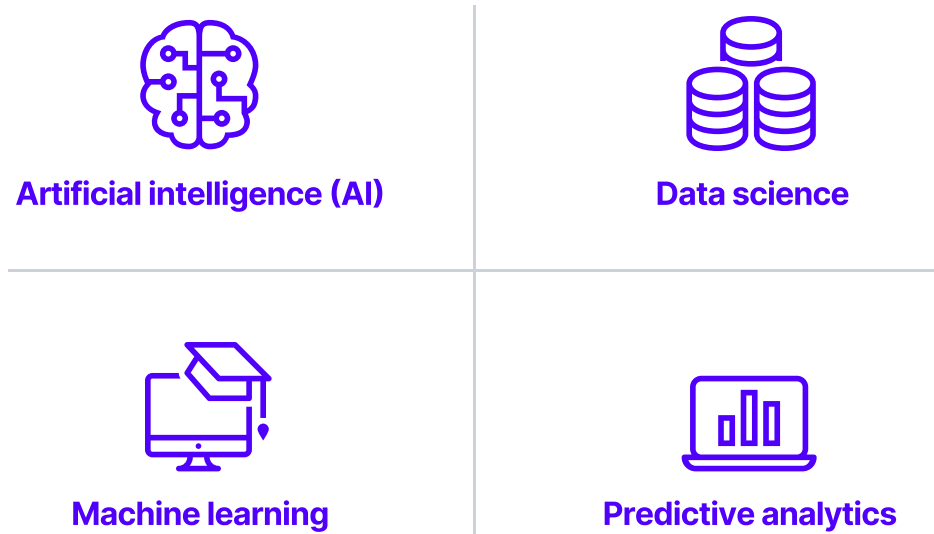
But ... what is predictive analytics, really? Let's dive into some specifics of exactly how this process works — and even better, how it can work for you and your business.



# Defining predictive analytics

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You'll often see four different terms used in conversations about data and business:



## Today's Approach to Predictive Analytics

We could spend a lot of time discussing the distinctions among those terms, but the important thing to know is that they all ultimately refer to the same thing: using computers' ability to quickly conduct many mathematical operations in order to identify patterns in data. Those insights aren't readily visible to humans, who would have to expend a lot more time and effort to find the same patterns.

Fortunately, humans have designed a variety of methods to find those patterns in ways that suit human — and business — goals. The patterns found in data from the past can then be used to make mathematical models that generate predictions about the future.

Predictive analytics as a whole is a problem-solving approach that looks at historical patterns to generate predictions about the future. Instead of relying on "best guesses" about the future based on historical data, businesses can now use these more accurate predictions to inform their decisions and plans.

These predictions might be whether a customer would take you up on an upsell offer, whether you should order a few or dozens of that popular new item for your stores, or which customers are most likely to have the highest lifetime value to your business.



# Defining predictive analytics

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Predictive analytics is a perfect fit for businesses that want to plan for the future and optimize strategies in a variety of areas. Instead of simply making guesses about what might happen in the future with charts

and graphs of historical data, you can use predictive analytics to generate accurate, actionable predictions to guide your decision making and maximize your business's potential.

## Two Types of Predictive Models

Predictions from a model can take the form of a specific number. For example, the model might predict that Customer A is likely to spend \$150 at your online store next month, while Customer B is predicted to spend only \$50. You could then send Customer A a free item to reinforce their loyalty and strengthen your relationship with them, ideally increasing their spending in the future.

Predictions can also be in the form of "classes," or categories, that best fit a specific individual or situation. For example, a model might predict that a customer who has purchased Product A is most likely to next purchase Product B. You could then suggest Product B proactively to that customer and increase the chances that the purchase will occur — thereby increasing your revenue.





# The predictive analytics process – what's possible today

Adopting predictive analytics has historically been a complex process relegated to specialized data teams, often separated from primary business concerns.

Their process has typically looked like this:

- **Identify and define** a business problem that can be addressed with data. What do you want to predict? Do you have data that relates to this issue?
- **Locate and gain access** to the data. Who is in charge of the data you'll need, and where is the data stored?
- **Clean and prepare** the data. In a perfect world, all data would be ideally formatted for your needs and contain no errors or issues that present statistical challenges. In reality, data often needs a fair amount of cleaning and "wrangling" to be ready for predictive analytics.
- **Build and evaluate** multiple mathematical models from the data. Test how well they make predictions on fresh data that wasn't used in the building process. Adjust the models until they produce results that actually offer business value.
- **Integrate the model's** predictions into your business workflows, actively using the predictions to guide business decisions. Monitor and update the model as needed, and assess how it's contributing to your desired business outcomes.

## Today's Approach to Predictive Analytics

However, today's data experts have developed tools that make the process easier for business users who don't want to handle the nitty-gritty details of every step. These users want to expedite results and see rapid value from their predictive analytics effort.

While some steps are still the same — for example, you'll still need to get access to your data and coordinate with those who manage it — other steps are far more streamlined,

thanks to these sophisticated, automated predictive analytics tools.

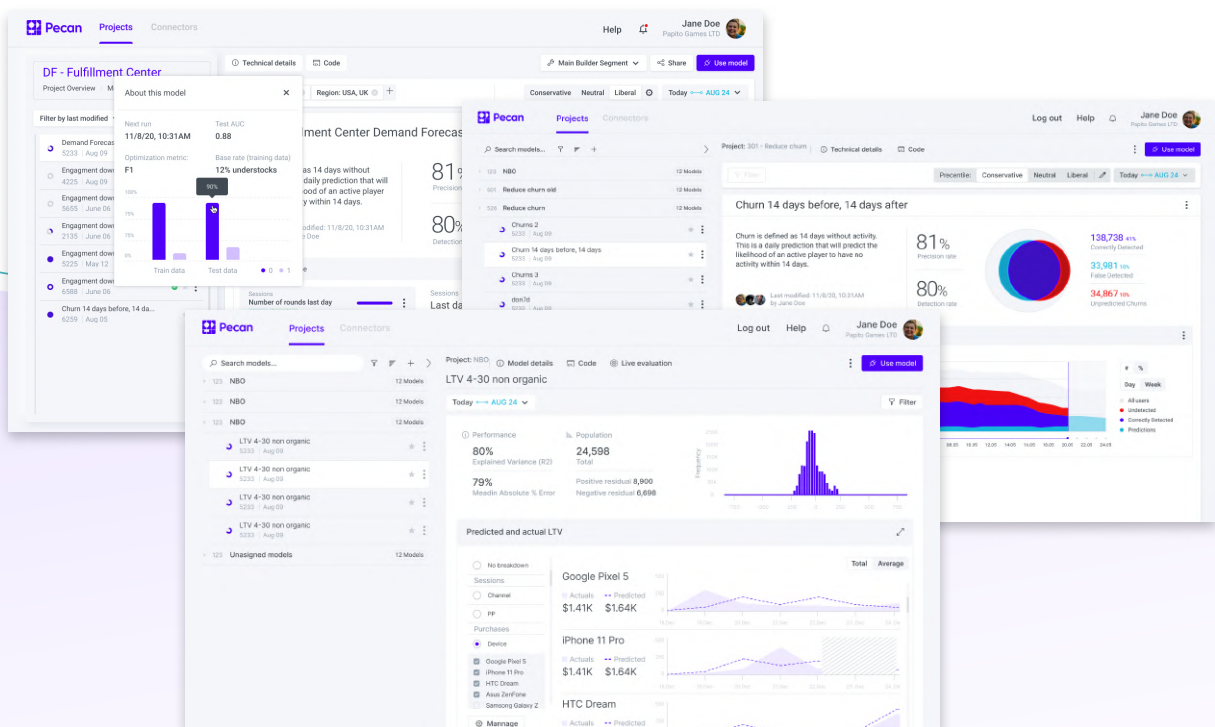
Investing in this effort has proven extremely worthwhile for the companies who truly wish to adopt a data-driven, not just data-informed approach to business. Even better, as we'll see in a moment, this process is now much more accessible across business teams, not available to only a few experts with hard-to-find, expensive data science skills.

# Taking predictive analytics into your own hands

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A huge variety of human challenges can now be tackled with predictive analytics. In business, a few important use cases include:

- Demand forecasting
- Conversion forecasting
- Lifetime value forecasting
- VIP customer identification
- Next best offer assessment
- Upsell and cross-sell opportunities
- Churn and retention forecasting
- Inventory planning





# Taking predictive analytics into your own hands

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Companies that haven't had data scientists have relied on fairly simple business rules and logic to make decisions and optimize their processes. But with the rise of data science, it's now possible to use more sophisticated approaches to obtain more precise results.

## Data Science Challenges

Typically, these advanced methods have been the domain of data scientists, who have often been trained in graduate programs — specifically in data science or in other fields — to use a blend of statistics and computer science to solve research problems. They usually know how to write code from scratch to develop and test predictive models, and they have the mathematical knowledge needed to see if those models are accurate or not.

While their abilities are valuable, the reality is that only a select few companies have been able to build dedicated, effective data science teams. Skilled data scientists are hard to hire, difficult to retain, and expensive.

But is it still worth striving to add a data science team to your business? There are other challenges that need to be addressed, too.

One often-observed difficulty is that it can be hard to forge a strong link between a data scientist's work and true business ROI. Many business teams have found it tough to translate their specific concerns into data science jargon and models.

Furthermore, there are many cautionary tales of data science projects where data scientists loved their models for their academic or technological novelty — but the projects failed to bring real value to the business teams who should have benefited from them.

Another risk is that there may not be resources or infrastructure needed to truly integrate the predictions from data scientists' models into the business and maintain the models' operation. The integration and maintenance can be technically complex. If they're unsuccessful, huge amounts of time and money are wasted.

## Predictive Analytics for All

Don't let these cautionary tales scare you away from bringing advanced predictive analytics into your own company or team. The predictive analytics process can now be much closer to home for all business teams, thanks to platforms that don't require expert-level mastery of coding and statistics.

All of these concerns can be addressed with tools that manage many steps of the analytics process for these teams, including the follow-up steps of maintaining and using the models effectively. Low- and no-code predictive analytics platforms help teams address their biggest challenges, integrate quality predictions immediately into their daily work, and help them achieve their most important KPIs.



## Why you need predictive analytics now

With new tools making the transformative potential of predictive analytics available to everyone, there's never been a better time to take your business to the next level by making the most of your data. It's an investment that will benefit your team, no matter what area of the business you're in.

### First



#### Own the Competitive Advantage

Keep in mind that your competition is likely already using their data for these purposes, or they will be very soon. The wider availability of user-friendly predictive analytics software is making this competitive advantage much more accessible. You want to be the leader in adapting your business decision making to a data-driven approach, making proactive decisions based on accurate predictions about the future, not just “best guesses” based on what happened in the past.

### Second



#### Predict Success with Customers

Predictive analytics can help you stand out in the sea of companies seeking customers' attention today. With more choices than ever before, plus rapidly shifting consumer expectations and loyalty, you want every advantage possible to best serve your customers and maintain the relevance, reputation, and efficiency of your business.

### Finally



#### Build Resilience

It's obvious that we live in a time of great change and uncertainty. Pandemics, conflicts, and technological shifts make it difficult to know how to proceed in your business. But if you can use data about what's happened in the past to generate predictions, you can design an informed path forward, as well as navigate changing market conditions with confidence.

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Knowing about the future lets you plan for the future, even when things seem unclear. Embracing predictive analytics offers you and your business this special capability — and it's truly the next step in your business's evolution.

## Predictive analytics without data scientists

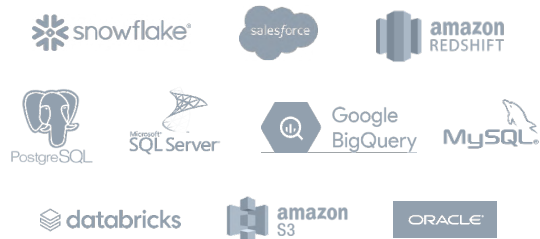
Pecan was designed to drive business value from AI. In one intuitive platform, analysts and business people can add data, deploy off-the-shelf predictive models, and see outputs—finally bringing AutoML within reach. Pecan generates predictions that provide ROI in just days.

**Pecan has impacted billions of dollars in business revenue**

Working with global companies such as

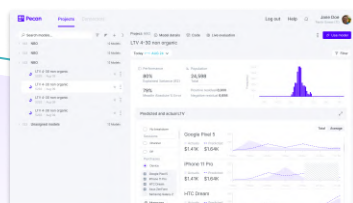


Connect raw business data from your existing systems

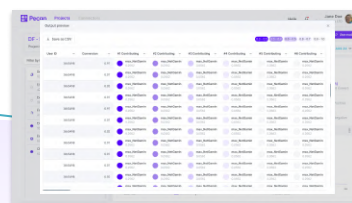


## Predict the most critical business KPIs

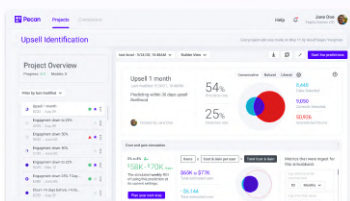
Lifetime value



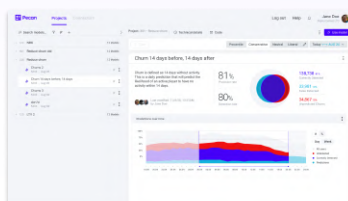
Conversion & lead scoring



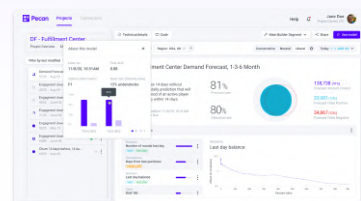
Upsell & conversion



Churn & retention



Demand forecasting



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14 days for your first prediction

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